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ABSTRACT

A study investigated the achievement of sixth-grade students in an integrated language arts curriculum. Subjects, 228 students in two schools in Southwestern Kansas, were divided into a treatment group of 128 students (who were taught using an integrated approach to language arts instruction) and a control group of 100 students (who were taught using a traditional approach). The independent variables were approach to instruction, gender, socioeconomic status, and race. The dependent variables were scores from the following scales of the California Achievement Test, Fifth Edition: Vocabulary, Reading Comprehension, Spelling, Language Mechanics, Language Expression, Reading Total, and Language Total. Four composite null hypotheses were tested employing a single-factor analysis of covariance. Of a total of 28 comparisons made, 13 were statistically significant. Results indicated that the integrated approach of language arts instruction yielded higher achievement: (1) in reading comprehension; (2) in spelling; (3) in language mechanics; (4) in language expression; (5) in reading total; (6) in language total; (7) for females in reading comprehension; (8) for females in language mechanics; (9) for students who pay full lunch price in vocabulary; (10) for Caucasian students in vocabulary; (11) for Caucasian students than Hispanic students in spelling; (12) for Caucasian students in language mechanics; and (13) for Caucasian students than Hispanic students in language total. (Contains 29 references and 4 tables of data. Appendixes present validity and reliability data for the California Achievement Test, a description of the integrated language arts program, and a computer analysis sheet.) (Author/RS)

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ED 384 048

INTEGRATED LANGUAGE ARTS: A STUDY OF THE ACHIEVEMENT OF SIXTH GRADE STUDENTS IN AN INTEGRATED LANGUAGE ARTS PROGRAM

being

A Thesis Presented to the Graduate Faculty

of the Fort Hays State University in

Partial Fulfillment of the Requirements for

the Degree of Master of Science

by

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Graduate Committee Approval

The Graduate Committee of Donna K. (Sherrill) Argo hereby approves her thesis as meeting partial fulfillment of the requirements for the Degree of Master of Science.

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Abstract

The purpose of the researcher was to investigate the achievement of sixth grade students in an integrated language arts curriculum. The sample was from 2 schools in Southwestern Kansas. The sample consisted of 228 students. The treatment group (received integrated approach of language arts instruction) consisted of 128 students, and the control group (received traditional approach of language arts instruction) consisted of 100 students.

The independent variables were approach to instruction, gender, socioeconomic status, and race. The dependent variables were scores from the following scales of the California Achievement Test, Fifth Edition: Vocabulary, Reading Comprehension, Spelling, Language Mechanics, Language Expression, Reading Total, and Language Total.

Four composite null hypotheses were tested at the .05 level of significance employing a single-factor analysis of covariance. A total of 28 comparisons were made. Of the 28 comparisons, 13 were statistically detectable at the .05 level.

The results of the study appeared to support the following generalizations:

1. the integrated approach of language arts instruction yields higher achievement in Reading Comprehension,

2. the integrated approach of language arts instruction yields higher achievement in Spelling,

3. the integrated approach of language arts instruction yields higher achievement in Language Mechanics,

4. the integrated approach of language arts instruction yields higher achievement in Language Expression,

5. the integrated approach of language arts instruction yields higher achievement in Reading Total,

6. the integrated approach of language arts instruction yields higher achievement in Language Total,

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12. the integrated approach of language arts instruction yields higher achievement for Caucasian students than Hispanic students in Language Mechanics, and

13. the integrated approach of language arts instruction yields higher achievement for Caucasian students than Hispanic students in Language Total.

Introduction

Overview

Middle school is a time of growth for students; it is a time in which "young adolescents appear to be in the throes of tumultuous change, creating a trying time for many of the adults with whom they interact and for themselves" (Anders & Pritchard, 1993, p. 611). Because of these unique features, there is much controversy on the most appropriate way to design a middle school curriculum. Anders & Pritchard described the need to reform:

> We posit that traditional school curriculum may be aiding and abetting adolescents in a curriculum rebellion that may be a symptom of adolescents' impatience with curriculum that is insensitive to their development. We recommend that curriculum and instruction be designed to engage students actively and purposely in using the tools of speaking, listening, reading, and writing. These ideas are explored by explicating the nature of adolescents' language, by describing a curriculum framework that takes into account these language developments and uses language to integrate various academic subjects. (p. 12)

McPartland (1987) suggested that there was no single best way to organize a middle school to meet the variety of needs in early adolescent students. He reported that self-contained classroom instruction benefited student-teacher relations at a cost to high quality subject matter instruction, while departmentalization improved the quality of instruction in specialized subject matter at a cost to student-teacher relations. Many

middle school curriculums today are designed to help the students make the transition from the personalized self-contained classroom of the elementary school into the specialized curriculum of the high school. One approach suggested by Lake (1988) to facilitate this transition period was to provide extended time with one teacher for sixth grade students. Burke (1988) outlined a model for scheduling that allowed students to spend more time with fewer teachers. Curriculum integration carried out through thematic units was the driving force of Beane's (1992) middle school reform. One common factor in many transitional middle school programs was integration.

Although integration has been conducted in various disciplines, Lake (1988) postulated that language arts has been the most popular. Wagner (1986) stated, "In the 1960s and 1970s, language arts integration began to be supported by an increasing body of respected research" (p. 1). During this same period, however, a counter trend developed in which processes such as reading and writing were taught and tested in discrete units. Moffett and Wagner (1983) postulated that

> Language learning is different from other school subjects. It is not a new subject, and it is not even a subject. It permeates every part of people's lives and itself constitutes a major way of abstracting. So learning language raises more clearly than other school courses the issue of integration. (p. 38)

Lare (1993) more recently supported the concept of integration, and maintained that although it started with reading, it will spread to other disciplines.

Definitions of Language Arts Integration

Although the term "integrating" is used widely and variably throughout the literature, Wagner (1986) stated, "Integrating the language arts means providing natural learning situations in which reading, writing, speaking, and listening can be developed together for a real purposes and real audiences" (p. 1). She further cited three ways to consider language arts integration:

> The most common understanding of integration is learning each of the language arts in terms of the others. Reading is learned through appropriate oral and written activities; writing is learned by attending to reading as a writer would--composing orally, reading drafts to peers, and engaging in related activities; and oral language is learned in the context of rich opportunities for receiving and producing written language. The second concept suggests that each language element is a part of the whole, not a set of isolated components. Finally, integration may involve the development of language while learning other content areas such as social studies, science, or math, as in the "language-across-the-curriculum" model. (Wagner, p. 1)

Integration involves the idea that reading, writing, and other language arts skills are not best taught by being broken down into tiny isolated components to be tested as discrete units, but rather learning is facilitated by presenting units in association with each other. Wagner (1986) stated, "Learning information about some aspect of language is not the same as developing language abilities, nor are drills, exercises, or workbooks a substitute for the acts of listening, speaking, reading, or writing in real communication

settings" (p. 2). Integrating the language arts strives to give value and continuity to the various components (spelling, vocabulary, grammar, reading, etc.) that contribute to effective writing, reading, and oral expression. "The language experience approach to reading integrates the language arts in a way that improves not only reading but writing as well, because children see the purpose of both" (Wagner, p. 3).

Language Arts Achievement and Integration

Bartch (1992) implemented a project to increase interest and achievement in spelling by integrating spelling with reading and writing. The project was implemented in her own elementary classroom, using 19 students. By throwing away the spelling workbook and merging spelling daily with literature, process writing, and shared reading, she found that the children were successful at their own level. Also, they were learning to be independent spellers. She stated, "Children are using spelling strategies throughout the day, not only during spelling time. They are also sharing, learning, and teaching each other in the areas of spelling" (p. 407).

Schmelz (1994) conducted a study to investigate the results of using an integrated learning system as the primary instructional method. The study consisted of 76 remedial English students in the 10th grade, examined over the period of one academic year.. The children were assigned either to traditional classrooms without access to computers (control group) or to a computer laboratory where instruction was presented using a computer-based integrated learning system and occasional teacher-directed lessons (experimental group). Dependent variables on which the two groups were compared included reading comprehension and English achievement; course

completion; absenteeism; behavior; and attitude toward English, school and computer-assisted instruction. Classrooms were visited quarterly to observe the implementation of the competency-based computer-assisted laboratory and traditional classes and to interview students and staff. The Stanford Achievement Test was implemented for pretests and posttests. Schmelz stated,

> The mean scaled score gains for both groups showed improvement in reading comprehension and English. Findings from the analysis of covariance of gain scores with the pretest as the covariate showed a significantly higher increase in reading comprehension scores for the control group than the treatment group; treatment group gains in English were larger than the control, but not significantly. The control group also had a significantly higher course completion rate. Absenteeism and discipline referrals were higher for the control, but only the discipline referrals were significant. (p. 1232)

Staff and student interviews, attitude surveys, and observations provided data regarding implementation, perceived effectiveness of the integrated learning system, and teacher role. By the end of the study, there was a marked decline in the percent of the treatment group who liked English and who preferred taking English in a computer laboratory.

Anders & Pritchard (1993), Lare (1993), Restrepo (1988), and Stanek (1991) all shared the opinion that integrating the language arts provides a greater opportunity for students to be successful. In the Proposal for a National Program on Accelerated Literacy, de-Tagle (1988) reported that teachers in various parts of the country who have used integrative learning principles in their classrooms have noted "dramatic gains in

students' test scores and significant reductions in the amount of time required for learning" (p. 1). Wagner (1986) stated "classroom-based research--longitudinal, ethnographic, case study, and classic control-group comparisons of student performance under various instructional conditions--supports integrations of the language arts" (p. 2). Flint-Ferguson (1993) also had the opinion that an effective middle school language arts curriculum must combine theories of adolescent development with theories of literature, reading, writing, and learning.

Language Arts Achievement and Gender

Boyer (1990) stated, "The effects of gender within the context of the curriculum cannot be ignored" (p. 47). Her study involved an investigation of writing outcomes of students participating in a Writing to Read Program. The study was conducted with 149 first grade pupils in Mississippi. Sixty-nine pupils received Writing to Read as part of their language arts curriculum. The control group consisted of 80 pupils. Variables investigated included type of program, gender, race, socioeconomic status, individual student learning style, attitude toward school, academic achievement, hours of language arts instruction per week, or hours of writing instruction per week. The General Impression Marking was used to derive the writing outcomes. She also employed the Learning Style Identification Scale, the Survey of School Attitudes, and the Stanford Early School Achievement Test, Level 1. All hypotheses were tested with multiple linear regression, and significance was established at the 0.05 level. The results showed a significant difference on writing outcomes between students who received Writing to Read instruction and students who received no Writing to Read instruction. However,

there was no significant difference between Writing to Read and no-Writing to Read outcomes according to gender. The F ratio for males was 2.974, and the F ratio for females was 2.376.

Daniel (1993) conducted a longitudinal study to investigate the effects of 46 independent variables associated with English/Language Arts curricular design upon writing achievement. The study consisted of 775 high school students in California. The data were submitted to stepwise multiple regression analyses. The results indicated that gender was not associated with writing achievement at the high school level. Of the 46 independent variables, reading ability was the strongest predictor of writing achievement. Daniel suggested that the high school English classroom should include the teaching of reading along with the teaching of writing, that more opportunities for writing across the curriculum should be created, and that consistent and educationally sound procedures for the review and revision of curricular program design should be implemented.

Gordon (1993) conducted a study to investigate the achievement of writing skills with computer assisted instruction. The study consisted of low-/below-average-skilled sophomore students. The Comprehensive Test of Basic Skills and the essay questions provided in the test preparation book for the General Education Diploma were the assessment instruments, and they were administered at the first of the year and again at the end of the semester. An analysis of variance followed by an analysis of variance with repeated measures to assess the change in mean scores over time were used. Significant differences between subject groups, and between students whose writing skills

improved/declined within subject groups regarding student gender, ethnicity, and learning style preferences were examined. He concluded,

> Females receiving computer assisted instruction benefited more than males in essay writing skills, while males receiving computer assisted instruction benefited more than females in objective writing skills. Without any computer assisted instruction, females performed much better than males in objective writing skills and slightly better than males in essay writing skills. (p. 23)

Clariana & Schultz (1993) examined the gender-by-content achievement differences in computer-based mathematics and language arts instruction. Information was taken only from the language arts instruction component. A teacher-prepared language arts test was the language arts posttest measure. His study was conducted with 50 eighth grade students participating in a summer remedial program in an inner-city. The factors analyzed by mixed analysis of variance included gender and ability; and the within factors test (pretest, posttest) and content (mathematics, language arts). The four-way interaction of gender, ability, test and content was significant $F(1, 42) = 4.618$, $p = 0.037$. In the area of language arts, the low achieving females made the largest pretest to posttest gains, relative to the low achieving males and the high achieving females.

Thames & Reeves-Kazelkskis (1992) explored the effects of individualized, integrated language arts instruction on the attitudes of poor readers. The study was conducted on 63 elementary students. For a period of 12 weeks, the treatment group of 33 students received reading instruction that incorporated listening, speaking, reading,

and writing activities. The researcher discovered that "female students' overall attitudes as well as their attitudes toward reading were significantly more positive than were the attitudes of the male students" (p. 16).

Wentzel (1988) conducted a longitudinal study to investigate gender-related developmental trends in math and English achievement. The study consisted of 30 male and 30 female high school students in California. These students had a complete set of achievement data from grade 6 through grade 12 on file. Repeated-measures analysis of variance and Pearson correlations were used, as well as a single-factor repeated measures analysis of variance, which was used to test for overall differences in performance over time. Wentzel found that gender-related patterns of performance differences in math and English achievement were related to specific outcome measures and changed with age. Standardized test performances declined with the females' ages, and overall mean differences for females were significant for both math and English scores. For males, there were no significant mean differences in performance over time for math and English grades, nor for English test scores.

McTeer (1986) conducted a study to determine students' preference toward four academic areas of the secondary school. The study, conducted in Georgia, consisted of 1,820 high school seniors in 14 high schools. A survey instrument was administered to determine students' preference toward four academic areas of the secondary school (English, mathematics, science, and social studies). Chi squares were computed to determine any significant differences regarding gender in the choices students made of favored and unfavored courses. Results were the following:

1. Girls selected English as the most liked subject more often than boys.
2. Boys selected English as the least liked subject more often than girls.
3. Boys selected mathematics as the most liked subject more often than girls.
4. Girls selected science as the least liked subject more often than boys.
5. Boys selected social studies as the most liked subject more often than girls.
6. Girls selected social studies as the least liked subject more often than boys.

(p. 262)

Owen (1991) wrote a report that summarized data from the National Assessment of Educational Progress, which has monitored the scholastic achievement of America's 9-, 13-, and 17-year-olds since 1969. He stated, "On average, females at all grades performed better in writing than their male counterparts." (p. 8)

Language Arts Achievement and Socioeconomic Status

Daniel (1993) conducted a study to investigate the effects of various variables associated with English/Language Arts curriculum design upon writing achievement. The longitudinal study analyzed 775 high school students' writing samples, school wide essays and portfolios collected over a three year period. The data were submitted to stepwise multiple regression analyses, and Daniel concluded, "socio-economic status affects the writing achievement of younger high school students more significantly than of older ones." (p. 38)

Qudah (1994) conducted a study to investigate the relationship between the academic achievement of students in Jordan state universities and the socioeconomic status of their families. The instrument composed of questions regarding demographics,

socioeconomic status (SES) background, cultural factors, and accumulated grade point average (GPA), was administered to 609 students in 4 state universities in Jordan. Data were sorted so that the socioeconomic status (SES) variables, namely the fathers' and mothers' income, occupation, and education, and students' GPA were identified on a 9-point ordinal scale. Pearson's chi-square was used to determine whether relationships existed between parents' SES and students' GPA, and no significant relationship was found. Spearman's correlation was also used to determine the direction and strength of the relationship. Statistically significant negative relationships were found between students' GPA and their fathers' and mothers' income, occupation and education in Jordan.

Boyer (1990) stated that "any study of the effects of a specific curriculum should also explore the varied responses of the different social classes" (p. 74). Her study was conducted to determine the effects of writing outcomes of students in a Writing to Read curriculum. The subjects were 149 first grade pupils in Mississippi. Writing outcomes were derived using General Impression marking; the researcher also employed the Learning Style Identification Scale, the Survey of School Attitudes, and the Stanford Early School Achievement Test, Level 1. Variables examined were type of curriculum, gender, race, socioeconomic status, individual student learning style, attitude toward school, academic achievement, hours of language arts instruction per week, and hours of writing instruction per week. A multiple linear regression was used, and significance was established at the 0.05 level. The results showed no association between Writing to

Read curriculum and traditional curriculum according to socioeconomic status (low SES E ratio = 2.051, high SES E ratio = 3.633).

Drazen (1992) conducted a study to examine student achievement and its relation to family and community poverty. The study used three long-term studies of American high school students: the National Longitudinal Study of the High School Class of 1972; the High School and Beyond Study; and the National Education Longitudinal Survey of 1988. The results indicated that the most potent factors in student reading achievement in 1972 were level of parents' education, time spent on homework, non-minority racial status and parental income. In 1988, the most potent factors in student reading achievement were parent's educational level, non-minority racial status, family income, time spent on homework, and being female.

Language Arts Achievement and Race

Daniel (1993) conducted a study to investigate the effects of 46 independent variables associated with English/Language Arts curriculum. The longitudinal study investigated 775 high school students' writing samples, school-wide essays and portfolios. A stepwise multiple regression analyses indicated that ethnicity was not significantly associated with the writing achievement at the high school level.

Gordon (1993) conducted a study to determine whether low or below average high school students improved or declined in their writing skills after one semester of computer-assisted instruction. The independent variables examined were gender, ethnicity, and learning style preferences. The analysis of variance and the analysis of

variance with repeated measures yielded no significant association for writing skills and ethnicity.

Owen (1991) wrote a report that summarized data from the National Assessment of Educational Progress, which has monitored the scholastic achievement of America's students since 1969. He stated, "On average, the gaps between White students' writing achievement and the achievement of their Black and Hispanic counterparts remained quite large." (p. 6)

Summary

Although middle school concepts may have started as early as 1900, the literature reviewed revealed that middle schools vary greatly in design and curriculum issues. Most middle schools seem to focus on meeting the needs of students between the ages of 10 and 15, and the authors reviewed suggested one way to accomplish this is through integration. Language arts integration has been defined as learning one aspect of language arts in terms of another, rather than learning each aspect (reading, writing, spelling, vocabulary, grammar) as independent units.

The ability to read, write, and speak is necessary not just in English classes, but in every class across the curriculum. Literature reviewed indicated that although the design of many curriculums in the middle schools contain these skills as separate components, there is both a trend and a need to teach them in terms of each other. According to some designs, the integrating of these areas can provide a middle school transition stage so that students remain with one teacher for an extended period, which better meets their needs as they leave the self-contained classroom of the elementary school.

Statement of the Research Problem

The purpose of the researcher was to investigate the achievement of sixth grade students in an integrated language arts curriculum.

Rationale and Importance of the Research

This study has importance to the counseling major because of an interest and involvement in the welfare and achievement of students. It is very important in counseling to be aware of current trends in education in order to best guide students in academic areas. McPartland (1987) stated the following:

> Most students cannot be left primarily on their own in middle grades without getting lost or risking serious setbacks in their educational and personal development. Thus teacher-student relations during the middle grades must combine adult supervision of each individual youngster with a spirit of adult positive interest and concern that will be felt by each student. (p. 3)

The middle school experience is a tremendous hurdle for most sixth graders as they leave the comfort and security of the isolated elementary classroom, and this study may provide data on a curriculum design that eases the student's transition into middle school. The present researcher found inconclusive results pertaining to gender, socioeconomic status, and ethnicity; the present study will provide information related to these variables.

This is an exploratory study designed to help determine the effectiveness of an integrated language arts program. The information could be used by administrators, curriculum committees, counselors, teachers, and members of boards of education in

making educational decisions that best suit the needs of middle school students. The results of the present study provided information to the following questions:

1. Is there an association between an integrated approach for language arts and student achievement in the areas of reading and language arts?

2. Is there an association between gender of those who participated in the integrated language arts approach and achievement in the areas of reading and language arts?

3. Is there an association between socioeconomic status for those who participated in the integrated language arts approach and achievement in the areas of reading and language arts?

4. Is there an association between race for those who participated in the integrated language arts approach and achievement in the areas of reading and language arts?

Composite Null Hypotheses

All hypotheses were tested at the .05 level of significance.

1. The difference between the adjusted post mean California Achievement Test, Fifth Edition (1994 reading and language arts) scores (covariate measures, 1993 California Achievement Test, Fifth Edition, reading and language arts scores) for sixth grade students according to instructional approach will not be statistically detectable.

2. The difference between the adjusted post mean California Achievement Test, Fifth Edition (1994 reading and language arts) scores (covariate measures, 1993 California Achievement Test, Fifth Edition, reading and language arts scores) for sixth

grade students who participated in the integrated language arts program according to gender will not be statistically detectable.

3. The difference between the adjusted post mean California Achievement Test, Fifth Edition (1994 reading and language arts) scores (covariate measures, 1993 California Achievement Test, Fifth Edition, reading and language arts scores) for sixth grade students who participated in the integrated language arts program according to socioeconomic status will not be statistically detectable.

4. The differences among the adjusted post mean California Achievement Test, Fifth Edition (1994 reading and language arts) scores (covariate measures, 1993 California Achievement Test, Fifth Edition, reading and language arts scores) for sixth grade students who participated in the integrated language arts program according to race will not be statistically detectable.

Independent Variables and Rationale

The following independent variables were investigated: participation status, gender, socioeconomic status, and race. These independent variables were selected because:

1. there were few studies found pertaining to these variables,
2. there was a lack of recent studies pertaining to the variables, and
3. literature pertaining to the variables contained inconclusive results.

Definition of Variables

Independent Variables:

All independent variables were taken from school records. The following independent variables were investigated:

1. approach to instruction--two levels,

   level 1--integrated language arts instruction (treatment), and

   level 2--traditional language arts/reading instruction (control);

2. gender--two levels,

   level 1--male, and

   level 2--female;

3. socioeconomic status--two levels,

   level 1--participation in a free/reduced lunch program, and

   level 2--participation in a regular lunch program;

4. race--three levels,

   level 1--Caucasian,

   level 2--Black, and

   level 3--Hispanic.

Dependent Variables

Scores from the following scales of the California Achievement Test, Fifth Edition (1994 school data) were employed as dependent variables:

1. Vocabulary (40 items, possible score 0-40),

2. Reading Comprehension (50 items, possible score 0-50),

3. Spelling (30 items, possible score 0-30),

4. Language Mechanics (36 items, possible score 0-36),

5. Language Expression (48 items, possible score 0-48),

6. Reading Total (Vocabulary + Reading Comprehension--90 items, possible score 0-90), and

7. Language Total (Language Mechanics + Language Expression--84 items, possible score 0-84).

Covariate Variables

The scores from the following scales of the California Achievement Test, Fifth Edition (1993 school data) were employed as covariate measures:

1. Vocabulary,

2. Reading Comprehension,

3. Spelling,

4. Language Mechanics,

5. Language Expression,

6. Reading Total, and

7. Language Total.

Limitations

The following might have effected the results of the present study:

1. the sample was not random,

2. the subjects all came from one school district,

3. the teacher variable was not controlled, and

4. scores were not available for all subjects.

Methodology

Setting

The setting for this research was two middle schools, grades 6, 7, and 8 in Southwestern Kansas. The study was conducted on data from the sixth grade class of the 1993-1994 school year. The school with the integrated approach of language arts instruction had an enrollment of 175 students in grade 6, while the school with the traditional approach of reading/language arts instruction had and enrollment of 151 students in grade 6. These two middle schools are located in one of the largest towns in Southwest Kansas with a population of approximately 18,000. Both the agri-business industry and light manufacturing from national and international companies are contributors to the town's economic backing. These two middle schools draw from seven elementary schools that are divided by a geographic boundary. The students come from varied socioeconomic strata and ethnic backgrounds. Approximately 34% of the total school enrollment is from ethnic minorities--most dominantly Black and Hispanic (School Profile, 1993, pp. 1-2).

Subjects

The school district has two middle schools. One school selected to introduce integrated language arts instruction in 1993 (Middle School A--treatment group). The other school did not introduce integrated language arts instruction until 1994 (Middle School B--control group). The sample for the integrative approach included all students who had complete information and attended Middle School A. These sixth grade

students received 88 minutes (two class periods) of integrated language arts instruction during the 1993-94 school year. The treatment group consisted of 175 students, 75 boys and 100 girls. The ethnic breakdown of this group was 139 Caucasian, 14 black, and 22 Hispanic. The socioeconomic breakdown included 40 students who participated in the free and reduced lunch program, and 110 students who participated in the regular lunch program.

The control group included all sixth grade students who attended Middle School B, which is located in the same city. All children who had complete information were employed in the study. These sixth grade students received traditional language arts instruction--44 minutes (one period) of reading, and 44 minutes (one period) of English during the 1993-94 school year. The control group consisted of 151 students, 91 boys and 60 girls. The ethnic breakdown of this group was 62 Caucasian, 15 black, 65 Hispanic, and 9 other. The socioeconomic breakdown included 83 students who participated in the free or reduced lunch program, and 68 students who participated in the regular lunch program.

Instrumentation

The instrument employed was the California Achievement Test, Fifth Edition (CAT/5), which was selected as a measure of academic achievement in language arts. This instrument is administered yearly to all students in the school district in grade 2 through grade 11. Since the test had already been administered, and the data were available for a covariate measure, the researcher decided to use the applicable subscales to measure achievement in language arts. The CAT/5 was designed to measure

achievement in the basic skills taught in schools. The areas of reading, language, spelling, mathematics, study skills, science and social studies were measured. Published by CTB Macmillan/McGraw-Hill (1993) , the CAT/5 consisted of 408 multiple choice items, which were organized by content categories. The complete battery, which is available in two parallel forms (A and B), provides both norm-referenced and curriculum-referenced information. In response to the trend toward integrative instruction, "items in the CAT/5 reflect a broad content base to represent the curriculum domains more comprehensively from the standpoint of content validity" (California Achievement Test Technical Bulletin 1, 1992, p. 6).

Reliability information was gathered by using the Kuder-Richardson Formula 20, the standard error of measurement, and item response theory. (Appendix A)

According to the CAT/5 Technical Bulletin 3 (1994):

> The KR20 is greatly influenced by the number of items in a test, and it is therefore expected that the longer tests, which are the Complete Battery tests, will be more reliable than the Survey tests. Also, the area and total battery scores are expected to be more reliable than those of separate tests. These expectations are upheld in the observed statistics. The KR20 values for the Complete Battery indicate that these tests are providing very good measurement, particularly in the spring. (p. 112)

Treatment

The treatment group was taught by 3 instructors for 88 minutes (two class periods per day). The classes met approximately 181 times during the 1993-94 school year. (Appendix B)

Design

A single-factor analysis of covariance was employed. The following independent variables were investigated: participation status in an integrated language arts program, gender, socioeconomic status, and ethnicity. The dependent variables were scores from the following subtests: Vocabulary, Reading Comprehension, Spelling, Language Mechanics, Language Expression, Reading Total, and Language Total. Four composite null hypotheses were tested at the .05 level. Each composite null hypothesis was tested employing a single-factor analysis of covariance employing 1993 CAT/5 scores as a covariate measure.

McMillan and Schumacher (1989) cited 10 threats to internal validity. These 10 threats were dealt with in the following ways in the present study:

1. history--analysis of covariance was employed;

2. selection--all students who had covariate measure scores (1993 CAT/5) and posttest scores (1994 CAT/5) were employed;

3. statistical regression--analysis of covariance was employed;

4. testing--tests were administered according to standard procedures;

5. instrumentation--a different level of the test was employed for the covariate measure;

6. mortality--all students were employed who had covariate and posttest scores (98 students did not);

7. maturation--analysis of covariance was employed;

8. diffusion of treatment--all treatment was administered by certified teachers (the present researcher did not take part in the treatment);

9. experimenter bias--the researcher did not conduct the experiment nor did she collect the data;

10. statistical conclusion--one mathematical assumption was violated. The sample was not random, and the researcher did not go beyond the statistical procedures employed; therefore, the results should only be generalized to similar groups.

MacMillan and Schumacher (1989) identified two threats to external validity which were dealt with in the following ways:

1. population external validity--the sample was not random; therefore, the results should be generalized only to similar groups; and

2. ecological external validity--covariate tests and posttests were administered according to standard procedures.

Data Collection Procedures

Scores for all sixth grade students who took the CAT/5 in May 1994 were collected. All reading and language arts subtests and components were collected. Scores for all 5th grade students who took the CAT/5 in May 1993 were collected. Scores were divided according to attendance centers--those who received integrated language arts approach of instruction (Middle School A) , and those who did not receive integrated

language arts approach of instruction (Middle School B). The sixth grade scores were paired with the fifth grade scores, and a list was compiled of all students who had complete subtest data. School records were accessed in order to obtain information about the independent variables: race, socioeconomic status, and gender. A data sheet was prepared for mainframe computer analysis at Fort Hays State University. (Appendix C)

Research Procedures

The following steps were implemented:

1. a topic was selected,
2. an ERIC, Psych Lit, Educational Index, Dissertation Index, Resources in Education Index, and Socio Lit Index search of literature was completed,
3. a review of the literature was conducted,
4. the proposal was compiled,
5. the proposal was defended before the thesis committee,
6. the data were collected,
7. the data were analyzed,
8. the final document was written,
9. the final document was defended, and
10. the final document was edited.

Data Analysis

The following were compiled:

1. appropriate descriptive statistics,
2. single-factor analysis of covariance, and

3. least squared test of means.

Results

The purpose of the researcher was to investigate the achievement of sixth grade students in an integrated language arts curriculum. The independent variables were approach to instruction, gender, socioeconomic status, and race. The dependent variables were scores from the following scales of the California Achievement Test, Fifth Edition: Vocabulary, Reading Comprehension, Spelling, Language Mechanics, Language Expression, Reading Total, and Language Total. Scores from the scales of the California Achievement Test, Fifth Edition were employed as the covariate measures and included Vocabulary, Reading Comprehension, Spelling, Language Mechanics, Language Expression, Reading Total, and Language Total. Four composite null hypotheses were tested at the .05 level of significance. Each composite null hypothesis was tested employing a single-factor analysis of covariance with the previous year's CAT/5 scores as covariate measure. The results section was organized according to composite null hypotheses for ease of reference. Information pertaining to each hypothesis was presented in a common format for ease of comparison.

It was hypothesized in composite null hypothesis number one that the difference between the adjusted post mean California Achievement Test, Fifth Edition (reading and language arts) scores (with previous year's scores as covariate measure) according to instructional approach would not be statistically detectable. Information pertaining to composite null hypothesis number one was presented in Table 1. The following information was cited in Table 1: variables, group sizes, covariate measure (pre mean

and standard deviation, post mean and standard deviation), posttest adjusted means, F values, and p levels.

Table 1: A Comparison of Adjusted Posttest Mean of the California Achievement Test, Fifth Edition (Previous Year's Scores as Covariate Measure) Scores According to Approach to Language Arts Instruction Employing a Single-Factor Analysis of Covariance.

Variable	n	Covariate Measure pre M/S	post M/S	Posttest Adj. M*	F value	p level
			Vocabulary**			
Approach to Instruction						
Integrated	128	24.1/6.68	25.0/7.68	23.2	0.66	.4187
Traditional	100	19.4/6.41	20.4/7.75	22.7		
Homogeneity of Regression					2.32	.1292
			Reading Comprehension**			
Approach to Instruction						
Integrated	128	35.4/9.87	35.8/9.93	34.1[a]	10.18	.0016
Traditional	100	30.5/10.59	28.8/11.54	31.0[b]		
Homogeneity of Regression					0.31	.5757

(continued)

Table 1 (continued)

Variable	n	Covariate Measure pre M/S	post M/S	Posttest Adj. M*	F value	p level
			Spelling**			
Approach to Instruction						
Integrated	128	21.0/5.16	19.8/5.68	18.9[a]	7.59	.0064
Traditional	100	18.4/5.60	16.2/6.44	17.3[b]		
Homogeneity of Regression					1.64	.2019
			Language Mechanics**			
Approach to Instruction						
Integrated	128	27.6/6.25	27.5/6.64	26.6[a]	28.18	.0001
Traditional	100	25.0/6.59	21.3/8.98	22.5[b]		
Homogeneity of Regression					0.02	.8865
			Language Expression**			
Approach to Instruction						
Integrated	128	32.0/9.26	32.7/9.13	31.4[a]	11.41	.0009
Traditional	100	28.3/8.68	26.8/10.17	28.5[b]		
Homogeneity of Regression					0.27	.6044

(continued)

Table 1 (continued)

Variable	n	Covariate Measure pre M/S	post M/S	Posttest Adj. M*	F value	p level
			Reading Total**			
Approach to Instruction						
Integrated	128	59.5/15.70	60.8/16.66	57.1[a]	4.82	.0292
Traditional	100	50.1/15.87	49.2/18.52	53.9[b]		
Homogeneity of Regression					0.66	.4189
			Language Total**			
Approach to Instruction						
Integrated	128	59.6/14.62	60.2/14.70	57.8[a]	22.35	.0001
Traditional	100	53.3/14.51	48.1/18.30	51.2[b]		
Homogeneity of Regression					0.37	.5429

*The larger the value, the greater the achievement.
**The scales had the following possible scores for both levels of the test: Vocabulary (0-40); Reading Comprehension (0-50); Spelling (0-30); Language Mechanics (0-36); Language Expression (0-48); Reading Total (0-90); Language Total (0-84).
ab Difference statistically detectable at the .05 level according to least mean square test.

Six of the 7 p values were statistically detectable at the .05 level; therefore, the null hypotheses for these comparisons were rejected. The statistically detectable comparisons were for the following:

1. approach to instruction and the dependent variable Reading Comprehension,

2. approach to instruction and the dependent variable Spelling,

3. approach to instruction and the dependent variable Language Mechanics,

4. approach to instruction and the dependent variable Language Expression,

5. approach to instruction and the dependent variable Reading Total, and

6. approach to instruction and the dependent variable Language Total.

The results cited in Table 1 indicated the following:

1. students who received integrated approach of language arts instruction had a statistically higher mean score for Reading Comprehension,

2. students who received integrated approach of language arts instruction had a statistically higher mean score for Spelling,

3. students who received integrated approach of language arts instruction had a statistically higher mean score for Language Mechanics,

4. students who received integrated approach of language arts instruction had a statistically higher mean score for Language Expression,

5. students who received integrated approach of language arts instruction had a statistically higher mean score for Reading Total, and

6. students who received integrated approach of language arts instruction had a statistically higher mean score for Language Total.

The assumption of homogeneity of regression was met for all comparisons cited in Table 1.

It was hypothesized in composite null hypothesis number two that the difference between the adjusted post-mean California Achievement Test, Fifth Edition (reading and

language arts) scores (with previous year's scores as covariate measure) for sixth graders who participated in the integrated language arts program according to gender would not be statistically detectable. Information pertaining to composite null hypothesis number two was presented in Table 2. The following information was cited in Table 2: variables, group sizes, covariate measure (pre mean and standard deviation, post mean and standard deviation), posttest adjusted means, F values, and p levels.

Table 2: A Comparison of Adjusted Posttest Mean of the California Achievement Test, Fifth Edition (Previous Year's Scores as Covariate Measure) Scores for Those Who Received Integrated Language Arts Instruction According to Gender Employing a Single-Factor Analysis of Covariance.

Variable	n	Covariate Measure pre M/S	post M/S	Posttest Adj. M*	F value	p level
			Vocabulary**			
Gender						
Male	55	24.2/7.09	25.4/8.19	25.3	0.44	.5088
Female	73	24.0/6.40	24.7/7.32	24.8		
Homogeneity of Regression					0.56	.4551

(continued)

Table 2 (continued)

Variable	n	Covariate Measure pre M/S	post M/S	Posttest Adj. M*	F value	p level
			Reading Comprehension**			
Gender						
Male	55	35.0/10.93	33.9/11.42	34.2[a]	7.54	.0069
Female	73	35.7/9.05	37.2/8.45	37.0[b]		
Homogeneity of Regression					0.72	.3989
			Spelling**			
Gender						
Male	55	20.5/5.74	19.3/6.64	19.7	0.12	.7305
Female	73	21.4/4.67	20.3/4.83	19.9		
Homogeneity of Regression					0.95	.3319
			Language Mechanics**			
Gender						
Male	55	26.1/7.08	25.4/8/02	26.6[a]	3.99	.0480
Female	73	28.7/5.31	29.1/4.88	28.2[b]		
Homogeneity of Regression					1.80	.1817

(continued)

Table 2 (continued)

Variable	n	Covariate Measure pre M/S	post M/S	Posttest Adj. M*	F value	p level
			Language Expression**			
Gender						
Male	55	30.9/9.60	31.2/10.43	32.1	1.15	.2852
Female	73	32.9/8.96	33.8/7.90	33.2		
Homogeneity of Regression					0.85	.3575
			Reading Total**			
Gender						
Male	55	59.2/16.85	59.3/19/01	59.5	2.37	.1259
Female	73	59.7/14.89	61.9/14.68	61.7		
Homogeneity of Regression					1.03	.3127
			Language Total**			
Gender						
Male	55	57.0/15.86	56.6/17.39	58.9	2.82	.9059
Female	73	61.6/13.38	52.9/11.72	61.2		
Homogeneity of Regression					3.07	.0820

*The larger the value, the greater the achievement.

**The scales had the following possible scores for both levels of the test: Vocabulary (0-40); Reading Comprehension (0-50); Spelling (0-30); Language Mechanics (0-36); Language Expression (0-48); Reading Total (0-90); Language Total (0-84).

ab Difference statistically detectable at the .05 level according to least mean square test.

Two of the 7 p values were statistically detectable at the .05 level; therefore, the null hypotheses for these comparisons were rejected. The statistically detectable comparisons were for the following:

1. gender and the dependent variable Reading Comprehension, and
2. gender and the dependent variable Language Mechanics.

The results cited in Table 2 indicated the following:

1. females who received integrated approach of language arts instruction had a statistically higher mean score for Reading Comprehension, and
2. females who received integrated approach of language arts instruction had a statistically higher mean score for Language Mechanics.

The assumption of homogeneity of regression was met for all comparisons cited in Table 2.

It was hypothesized in composite null hypothesis number three that the difference between the adjusted post-mean California Achievement Test, Fifth Edition (reading and language arts) scores (with previous year's scores as covariate measure) for sixth graders who participated in the integrated language arts program according to socioeconomic status would not be statistically detectable. Information pertaining to composite null hypothesis number three was presented in Table 3. The following information was cited in Table 3: variables, group sizes, covariate measure (pre mean and standard deviation, post mean and standard deviation), posttest adjusted means, F values, and p levels.

Table 3: A Comparison of Adjusted Posttest Mean of the California Achievement Test, Fifth Edition (Previous Year's Scores as Covariate Measure) Scores for Those Who Received Integrated Language Arts Instruction According to Socioeconomic Status Employing a Single-Factor Analysis of Covariance.

Variable	n	Covariate Measure pre M/S	post M/S	Posttest Adj. M*	F value	p level
			Vocabulary**			
Socioeconomic Status						
Free/Reduced Lunch	29	19.7/5.98	19.3/7.45	23.2[a]		
Regular Priced Lunch	99	25.3/6.36	20.67/6.95	25.6[b]	5.77	.0178
Homogeneity of Regression					1.83	.1782
			Reading Comprehension**			
Socioeconomic Status						
Free/Reduced Lunch	29	28.3/10.28	30.1/9.77	35.8		
Regular Priced Lunch	99	37.5/8.76	37.4/9.39	35.7	0.01	.9352
Homogeneity of Regression					0.81	.3705

(continued)

Table 3 (continued)

Variable	n	Covariate Measure pre M/S	post M/S	Posttest Adj. M*	F value	p level
			Spelling**			
Socioeconomic Status						
Free/Reduced Lunch	29	19.0/5.52	17.2/6.08	18.9		
					2.68	.1043
Regular Priced Lunch	99	21.6/4.92	20.6/5.34	20.1		
Homogeneity of Regression					0.26	.6115
			Language Mechanics**			
Socioeconomic Status						
Free/Reduced Lunch	29	23.4/7.90	23.7/8/60	27.1		
					0.33	.5690
Regular Priced Lunch	99	28.8/5.10	28.6/5.51	27.6		
Homogeneity of Regression					1.19	.2777
			Language Expression**			
Socioeconomic Status						
Free/Reduced Lunch	29	25.6/9.37	27.1/9.38	32.0		
					0.47	.4932
Regular Priced Lunch	99	33.9/8.38	34.3/8.41	32.9		
Homogeneity of Regression					0.21	.6438

(continued)

Table 3 (continued)

Variable	n	Covariate Measure pre M/S	post M/S	Posttest Adj. M*	F value	p level
			Reading Total**			
Socioeconomic Status						
Free/Reduced Lunch	29	48.1/15.59	49.4/15.96	59.9		
					0.38	.5404
Regular Priced Lunch	99	62.8/14.14	64.1/15.41	61.0		
Homogeneity of Regression					0.06	.8112
			Language Total**			
Socioeconomic Status						
Free/Reduced Lunch	29	49.0/16.29	50.8/16.26	59.8		
					0.09	.7667
Regular Priced Lunch	99	62.8/12.56	63.0/13.05	60.3		
Homogeneity of Regression					0.46	.5008

*The larger the value, the greater the achievement.

**The scales had the following possible scores for both levels of the test: Vocabulary (0-40); Reading Comprehension (0-50); Spelling (0-30); Language Mechanics (0-36); Language Expression (0-48); Reading Total (0-90); Language Total (0-84).

ab Difference statistically detectable at the .05 level according to least mean square test.

One of the 7 p values was statistically detectable at the .05 level; therefore, the null hypothesis for this comparison was rejected. The statistically detectable comparison was for the independent variable socioeconomic status and the dependent variable Vocabulary. The results cited in Table 3 indicated that students who paid the full lunch price and received integrated approach of language arts instruction had a statistically higher mean score for Vocabulary. The assumption of homogeneity of regression was met for all comparisons cited in Table 3.

It was hypothesized in composite null hypothesis number four that the differences among the adjusted post-mean California Achievement Test, Fifth Edition (reading and language arts) scores (with previous year's scores as covariate measure) for sixth graders who participated in the integrated language arts program according to race would not be statistically detectable. Information pertaining to composite null hypothesis number four was presented in Table 4. The following information was cited in Table 4: variables, group sizes, covariate measure (pre mean and standard deviation, post mean and standard deviation), posttest adjusted means, F values, and p levels.

Table 4: A Comparison of Adjusted Posttest Mean of the California Achievement Test, Fifth Edition (Previous Year's Scores as Covariate Measure) Scores for Those Who Received Integrated Language Arts Instruction According to Race Employing a Single-Factor Analysis of Covariance.

Variable	n	Covariate Measure pre M/S	post M/S	Posttest Adj. M*	F value	p level
			Vocabulary**			
Race						
Caucasian	102	25.5/5.93	27.0/6.41	25.7[a]		
Black	10	16.6/6.50	15.3/8.27	21.6[b]	5.30	.0062
Hispanic	16	19.3/6.31	18.8/7.17	22.8[b]		
Homogeneity of Regression					0.35	.7047
			Reading Comprehension**			
Race						
Caucasian	102	37.8/8.04	38.0/8.52	36.2		
Black	10	22.2/11.37	25.3/8.53	35.6	1.79	.1709
Hispanic	16	28.7/10.46	27.8/11.30	33.1		
Homogeneity of Regression					1.87	.1589

(continued)

Table 4 (continued)

Variable	n	Covariate Measure pre M/S	post M/S	Posttest Adj. M*	F value	p level
			Spelling**			
Race						
Caucasian	102	21.3/5.00	20.5/5.42	20.2[a]		
Black	10	20.0/6.83	18.7/5.42	19.5	3.39	.0369
Hispanic	16	19.4/4.97	16.4/6.45	17.7[b]		
Homogeneity of Regression					0.38	.6814
			Language Mechanics**			
Race						
Caucasian	102	28.7/5.35	28.9/5.45	28.1[a]		
Black	10	21.5/8.48	21.2/8.80	25.9	3.86	.0236
Hispanic	16	24.6/7.26	22.8/8.00	25.1[b]		
Homogeneity of Regression					0.68	.5095
			Language Expression**			
Race						
Caucasian	102	33.9/8.36	34.5/8.14	33.1		
Black	10	22.6/9.71	26.0/8.89	33.2	2.16	.1194
Hispanic	16	25.9/8.67	25.3/10.07	29.9		
Homogeneity of Regression					1.20	.3052

(continued)

Table 4 (continued)

Variable	n	Covariate Measure pre M/S	post M/S	Posttest Adj. M*	F value	p level
			Reading Total**			
Race						
Caucasian	102	63.3/12.87	65.0/13.93	61.6		
Black	10	38.8/17.11	40.6/14.16	58.9	2.39	.0958
Hispanic	16	48.0/16.44	46.6/17.77	56.7		
Homogeneity of Regression					0.51	.6042
			Language Total**			
Race						
Caucasian	102	62.6/12.77	63.4/12.68	61.0		
Black	10	44.1/17.51	47.2/14.62	60.0	3.09	.0490
Hispanic	16	50.5/14.78	48.1/16.78	55.6		
Homogeneity of Regression					0.22	.8007

*The larger the value, the greater the achievement.

**The scales had the following possible scores for both levels of the test: Vocabulary (0-40); Reading Comprehension (0-50); Spelling (0-30); Language Mechanics (0-36); Language Expression (0-48); Reading Total (0-90); Language Total (0-84).

ab Difference statistically detectable at the .05 level according to least mean square test.

Four of the 7 p values were statistically detectable at the .05 level; therefore, the null hypotheses for these comparisons were rejected. The statistically detectable comparisons were for the following:

1. race and the dependent variable Vocabulary,
2. race and the dependent variable Spelling,
3. race and the dependent variable Language Mechanics, and
4. race and the dependent variable Language Total.

The results cited in Table 4 indicated the following:

1. Caucasian students who received integrated approach of language arts instruction had a statistically higher mean score for Vocabulary,
2. Caucasian students who received integrated approach of language arts instruction had a statistically higher mean score than Hispanic students for Spelling,
3. Caucasian students who received integrated approach of language arts instruction had a statistically higher mean score than Hispanic students for Language Mechanics, and
4. Caucasian students who received integrated approach of language arts instruction had a statistically higher mean score than Hispanic students for Language Total.

Discussion

Summary

The purpose of the researcher was to investigate the achievement of sixth grade students in an integrated language arts curriculum. The sample was from 2 schools in

Southwestern Kansas. The sample consisted of 228 students. The treatment group (received integrated approach of language arts instruction) consisted of 128 students, and the control group (received traditional approach of language arts instruction) consisted of 100 students. The independent variables were approach to instruction, gender, socioeconomic status, and race. The dependent variables were scores from the following scales of the California Achievement Test, Fifth Edition: Vocabulary, Reading Comprehension, Spelling, Language Mechanics, Language Expression, Reading Total, and Language Total. Four composite null hypotheses were tested at the .05 level of significance employing a single-factor analysis of covariance.

A total of 28 comparisons were made. Of the 28 comparisons, 13 were statistically detectable at the .05 level. The following main effects were statistically detectable:

1. approach to instruction and the dependent variable Reading Comprehension,
2. approach to instruction and the dependent variable Spelling,
3. approach to instruction and the dependent variable Language Mechanics,
4. approach to instruction and the dependent variable Language Expression,
5. approach to instruction and the dependent variable Reading Total,
6. approach to instruction and the dependent variable Language Total,
7. gender and the dependent variable Reading Comprehension,
8. gender and the dependent variable Language Mechanics,
9. socioeconomic status and the dependent variable Vocabulary,
10. race and the dependent variable Vocabulary,

11. race and the dependent variable Spelling,

12. race and the dependent variable Language Mechanics, and

13. race and the dependent variable Language Total.

The results indicated the following:

1. students who received integrated approach of language arts instruction had a statistically higher mean score for Reading Comprehension,

2. students who received integrated approach of language arts instruction had a statistically higher mean score for Spelling,

3. students who received integrated approach of language arts instruction had a statistically higher mean score for Language Mechanics,

4. students who received integrated approach of language arts instruction had a statistically higher mean score for Language Expression,

5. students who received integrated approach of language arts instruction had a statistically higher mean score for Reading Total,

6. students who received integrated approach of language arts instruction had a statistically higher mean score for Language Total,

7. females who received integrated approach of language arts instruction had a statistically higher mean score for Reading Comprehension,

8. females who received integrated approach of language arts instruction had a statistically higher mean score for Language Mechanics,

9. students who paid the full lunch price and received integrated approach of language arts instruction had a statistically higher mean score for Vocabulary,

10. Caucasian students who received integrated approach of language arts instruction had a statistically higher mean score for Vocabulary,

11. Caucasian students who received integrated approach of language arts instruction had a statistically higher mean score than Hispanic students for Spelling,

12. Caucasian students who received integrated approach of language arts instruction had a statistically higher mean score than Hispanic students for Language Mechanics, and

13. Caucasian students who received integrated approach of language arts instruction had a statistically higher mean score than Hispanic students for Language Total.

Related Literature and Results of Present Study

The present researcher found limited studies available pertaining to academic achievement and integrated approach of language arts. Bartch (1992) reported success with an integrated spelling program, and the results of the present study supported her findings. The results of the study by Schmelz (1994) indicated a higher gain in reading comprehension for students in a traditional English classroom than for students in a computer-based integrated learning system. The results of the present study did not support his findings, but indicated the opposite. The results of the present study supported the opinions of Anders & Pritchard (1993), Lare (1993), Restrepo (1988), and Wagner (1986), who all postulated that integrating the language arts provided a greater opportunity for students to be successful. These opinions were supported regarding the

variables Reading Comprehension, Spelling, Language Mechanics, Language Expression, Reading Total, and Language Total.

Both Boyer (1990) and Daniel (1993) reported no association between gender and language arts variables. The results of the present study supported these findings in the areas of Vocabulary, Spelling, Language Expression, Reading Total, and Language Total. Gordon (1993), Clariana & Schultz (1993), Thames & Reeves-Kazelkskis (1992), Wentzel (1988), and Owen (1991) all reported an association between gender and language arts achievement; the results of the present study supported their findings regarding the variables Reading Comprehension and Language Mechanics.

Boyer (1990) postulated that there was no association between student's socioeconomic status and language arts achievement. The results of the present study supported his conclusion in the areas of Reading Comprehension, Spelling, Language Mechanics, Language Expression, Reading Total, and Language Total. On the other hand, Daniel (1993), Qudah (1994), and Drazen (1992) all reported an association between socioeconomic status and language arts achievement; the results of the present study supported their findings regarding the variable Vocabulary.

Both Daniel (1993) and Gordon (1993) reported no association between race and writing skills. The results of the present study did not support their findings regarding the variables Vocabulary, Spelling, Language Mechanics, and Language Total, but their findings were supported by the results of the present study regarding the variables Reading Comprehension, Language Expression, and Reading Total.

Generalizations

The results of the present study appeared to support the following generalizations:

1. the integrated approach of language arts instruction yields higher achievement in Reading Comprehension,

2. the integrated approach of language arts instruction yields higher achievement in Spelling,

3. the integrated approach of language arts instruction yields higher achievement in Language Mechanics,

4. the integrated approach of language arts instruction yields higher achievement in Language Expression,

5. the integrated approach of language arts instruction yields higher achievement in Reading Total,

6. the integrated approach of language arts instruction yields higher achievement in Language Total,

7. the integrated approach of language arts instruction yields higher achievement for females in Reading Comprehension,

8. the integrated approach of language arts instruction yields higher achievement for females in Language Mechanics,

9. the integrated approach of language arts instruction yields higher achievement for students who pay full lunch price in Vocabulary,

10. the integrated approach of language arts instruction yields higher achievement for Caucasian students in Vocabulary,

11. the integrated approach of language arts instruction yields higher achievement for Caucasian students than Hispanic students in Spelling,

12. the integrated approach of language arts instruction yields higher achievement for Caucasian students than Hispanic students in Language Mechanics, and

13. the integrated approach of language arts instruction yields higher achievement for Caucasian students than Hispanic students in Language Total.

Implications

The results of the present study appeared to support the following implications:

1. the integrated approach of language arts instruction seems to yield higher achievement, so persons making curriculum decisions should consider this approach;

2. females who received integrated approach of language arts instruction performed better in the areas of Reading Comprehension and Language Mechanics, so males may need additional support in these areas;

3. students who received integrated approach of language arts instruction and who receive free- or reduced- price lunches did not perform as well in the area of Vocabulary, so they may need additional support in this area;

4. black students who received integrated approach of language arts instruction did not perform as well in the area of Vocabulary, and Hispanic students who received integrated approach of language arts instruction did not perform as well in the areas of Vocabulary, Spelling, Language Mechanics, and Language Total, so these students may need additional support in these areas.

Recommendations

The results of the present study appear to support the following recommendations:

1. the study should be replicated with a larger random sample,
2. the study should be replicated in schools of different sizes, and
3. the study should be replicated using other dependent variables.

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Appendix A

Validity and Reliability

(CAT/5)

Table 18
Number-Correct Score Statistics (Spring)
For CAT/5 Complete Battery A

TEST	NO. OF ITEMS	MEAN	SD	Average P-Value	KR20	SEM
	GRADE K (LEVEL K)					
Visual Recognition	25	22.64	2.82	0.91	0.81	1.24
Word Analysis	25	19.05	4.45	0.76	0.82	1.91
Vocabulary	24	21.35	3.10	0.89	0.81	1.36
Reading Comprehension	24	18.71	3.56	0.78	0.75	1.77
TOTAL READING	48	40.06	6.09	0.83	0.87	2.24
Math Concepts & Applications	28	21.74	3.71	0.78	0.75	1.84

TEST	NO. OF ITEMS	MEAN	SD	Average P-Value	KR20	SEM
	GRADE K (LEVEL 10)					
Word Analysis	25	16.45	5.27	0.66	0.85	2.03
Vocabulary	32	20.07	5.00	0.63	0.81	2.19
Reading Comprehension	28	18.46	4.41	0.66	0.76	2.17
TOTAL READING	60	38.54	8.50	0.64	0.87	3.09
Math Concepts & Applications	32	20.34	5.45	0.64	0.82	2.34

TEST	NO. OF ITEMS	MEAN	SD	Average P-Value	KR20	SEM
	GRADE 1 (LEVEL 11)					
Word Analysis	28	20.99	5.46	0.75	0.88	1.85
Vocabulary	32	20.52	6.52	0.64	0.89	2.20
Reading Comprehension	34	22.42	6.64	0.66	0.87	2.36
TOTAL READING	66	42.94	12.15	0.65	0.93	3.22
Language Mechanics	24	14.57	4.43	0.61	0.76	2.16
Language Expression	32	22.00	7.47	0.69	0.91	2.23
TOTAL LANGUAGE	56	36.57	10.82	0.65	0.92	3.10
Math Computation	28	20.78	4.38	0.74	0.80	1.97
Math Concepts & Applications	34	23.95	5.78	0.70	0.84	2.30
TOTAL MATHEMATICS	62	44.73	9.25	0.72	0.89	3.03
TOTAL BATTERY	184	124.24	29.96	0.68	0.97	5.40
Science	25	19.26	3.27	0.77	0.67	1.87
Social Studies	25	20.31	2.86	0.81	0.61	1.78

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TEST	NO. OF ITEMS	MEAN	SD	Average P-Value	KR20	SEM
	GRADE 2 (LEVEL 12)					
Word Analysis	30	23.05	5.82	0.77	0.90	1.88
Vocabulary	32	22.00	6.02	0.69	0.89	2.04
Reading Comprehension	38	25.66	8.92	0.68	0.93	2.38
TOTAL READING	70	47.66	13.81	0.68	0.95	3.14
Spelling	28	18.34	5.90	0.65	0.87	2.09
Language Mechanics	28	18.40	5.48	0.66	0.84	2.17
Language Expression	35	24.18	8.24	0.69	0.92	2.27
TOTAL LANGUAGE	63	42.58	12.63	0.68	0.94	3.14
Math Computation	30	18.28	6.68	0.61	0.90	2.13
Math Concepts & Applications	42	29.72	7.57	0.71	0.89	2.56
TOTAL MATHEMATICS	72	48.00	13.14	0.67	0.94	3.33
TOTAL BATTERY	205	138.24	37.33	0.67	0.98	5.55
Science	25	17.77	3.39	0.71	0.65	2.00
Social Studies	25	18.63	4.02	0.75	0.78	1.88

TEST	NO. OF ITEMS	MEAN	SD	Average P-Value	KR20	SEM
	GRADE 3 (LEVEL 13)					
Word Analysis	30	22.34	5.43	0.74	0.87	1.99
Vocabulary	34	21.96	6.12	0.65	0.87	2.23
Reading Comprehension	40	27.37	8.23	0.68	0.91	2.48
TOTAL READING	74	49.32	13.25	0.67	0.94	3.33
Spelling	28	19.00	5.24	0.68	0.85	2.02
Language Mechanics	28	20.33	4.98	0.73	0.83	2.05
Language Expression	48	32.39	8.88	0.67	0.90	2.85
TOTAL LANGUAGE	76	52.72	12.83	0.69	0.93	3.51
Math Computation	38	24.31	6.98	0.64	0.87	2.51
Math Concepts & Applications	44	25.92	8.41	0.59	0.89	2.82
TOTAL MATHEMATICS	82	50.23	14.21	0.61	0.93	3.78
TOTAL BATTERY	232	152.28	37.89	0.66	0.97	6.14
Science	30	18.65	5.22	0.62	0.81	2.30
Social Studies	30	19.38	6.26	0.65	0.87	2.25

TEST	NO. OF ITEMS	MEAN	SD	Average P-Value	KR20	SEM
	GRADE 4 (LEVEL 14)					
Vocabulary	40	24.32	7.41	0.61	0.88	2.55
Reading Comprehension	50	34.34	10.57	0.69	0.93	2.80
TOTAL READING	90	58.66	16.67	0.65	0.95	3.79
Spelling	30	19.53	5.27	0.65	0.82	2.22
Language Mechanics	36	22.79	7.18	0.63	0.88	2.47
Language Expression	48	30.47	9.23	0.63	0.90	2.92
TOTAL LANGUAGE	84	53.27	15.20	0.63	0.94	3.82
Math Computation	44	29.04	8.87	0.66	0.91	2.66
Math Concepts & Applications	50	29.56	9.18	0.59	0.89	3.00
TOTAL MATHEMATICS	94	58.60	16.73	0.62	0.94	4.01
TOTAL BATTERY	268	170.53	45.90	0.64	0.98	6.71
Study Skills	30	16.52	7.47	0.55	0.91	2.30
Science	40	22.44	7.84	0.56	0.88	2.75
Social Studies	40	24.24	8.07	0.61	0.89	2.72

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TEST	NO. OF ITEMS	MEAN	SD	Average P-Value	KR20	SEM
	GRADE 5 (LEVEL 15)					
Vocabulary	40	23.16	6.78	0.58	0.85	2.59
Reading Comprehension	50	34.03	10.56	0.68	0.93	2.81
TOTAL READING	90	57.19	15.96	0.64	0.94	3.82
Spelling	30	18.97	5.66	0.63	0.84	2.26
Language Mechanics	36	24.33	6.75	0.68	0.87	2.42
Language Expression	48	30.05	8.66	0.63	0.89	2.90
TOTAL LANGUAGE	84	54.38	14.26	0.65	0.93	3.78
Math Computation	44	29.40	8.99	0.67	0.91	2.64
Math Concepts & Applications	50	28.98	10.33	0.58	0.91	3.02
TOTAL MATHEMATICS	94	58.39	18.00	0.62	0.95	4.02
TOTAL BATTERY	268	169.95	45.43	0.63	0.98	6.71
Study Skills	30	17.87	6.53	0.60	0.87	2.33
Science	40	23.18	7.73	0.58	0.87	2.77
Social Studies	40	22.60	8.69	0.57	0.90	2.70

TEST	NO. OF ITEMS	MEAN	SD	Average P-Value	KR20	SEM
	GRADE 6 (LEVEL 16)					
Vocabulary	40	24.94	7.63	0.62	0.89	2.48
Reading Comprehension	50	33.81	10.55	0.68	0.93	2.83
TOTAL READING	90	58.76	16.90	0.65	0.95	3.77
Spelling	30	19.41	5.62	0.65	0.85	2.19
Language Mechanics	36	24.91	6.54	0.69	0.87	2.37
Language Expression	48	30.98	8.51	0.65	0.89	2.85
TOTAL LANGUAGE	84	55.89	13.91	0.67	0.93	3.70
Math Computation	44	2[illegible]	9.65	0.62	0.92	2.69
Math Concepts & Applications	50	2[illegible]	10.07	0.57	0.91	3.04
TOTAL MATHEMATICS	94	55.61	18.36	0.59	0.95	4.06
TOTAL BATTERY	268	170.26	46.34	0.64	0.98	6.66
Study Skills	30	20.03	6.49	0.67	0.88	2.22
Science	40	23.77	7.35	0.59	0.86	2.76
Social Studies	40	25.02	9.14	0.63	0.92	2.61

TEST	NO. OF ITEMS	MEAN	SD	Average P-Value	KR20	SEM
	GRADE 7 (LEVEL 17)					
Vocabulary	40	23.38	7.79	0.58	0.89	2.56
Reading Comprehension	50	31.20	10.83	0.62	0.93	2.94
TOTAL READING	90	54.57	17.30	0.61	0.95	3.90
Spelling	30	21.07	5.33	0.70	0.85	2.05
Language Mechanics	36	22.37	6.97	0.62	0.87	2.50
Language Expression	48	31.34	9.13	0.65	0.90	2.87
TOTAL LANGUAGE	84	53.72	14.90	0.64	0.93	3.81
Math Computation	44	26.25	9.30	0.60	0.91	2.72
Math Concepts & Applications	50	27.47	10.22	0.55	0.91	3.02
TOTAL MATHEMATICS	94	53.72	18.17	0.57	0.95	4.07
TOTAL BATTERY	268	162.01	47.56	0.60	0.98	6.80
Study Skills	30	19.30	6.75	0.64	0.89	2.23
Science	40	21.85	7.55	0.55	0.86	2.84
Social Studies	40	24.46	8.44	0.61	0.90	2.68

TEST	NO. OF ITEMS	MEAN	SD	Average P-Value	KR20	SEM
	GRADE 8 (LEVEL 18)					
Vocabulary	40	23.87	8.03	0.60	0.89	2.61
Reading Comprehension	50	32.68	10.22	0.65	0.92	2.92
TOTAL READING	90	56.55	16.97	0.63	0.95	3.92
Spelling	30	21.35	5.16	0.71	0.83	2.13
Language Mechanics	36	22.07	7.04	0.61	0.87	2.54
Language Expression	48	32.94	8.79	0.69	0.90	2.82
TOTAL LANGUAGE	84	55.01	14.65	0.65	0.93	3.79
Math Computation	44	25.56	10.17	0.58	0.93	2.67
Math Concepts & Applications	50	26.22	10.02	0.52	0.90	3.09
TOTAL MATHEMATICS	94	51.78	18.79	0.55	0.95	4.09
TOTAL BATTERY	268	163.34	47.55	0.61	0.98	6.81
Study Skills	30	20.75	6.52	0.69	0.89	2.14
Science	40	20.88	7.61	0.52	0.86	2.85
Social Studies	40	24.54	8.55	0.61	0.90	2.68

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TEST	NO. OF ITEMS	MEAN	SD	Average P-Value	KR20	SEM
	GRADE 9 (LEVEL 19)					
Vocabulary	40	23.58	8.22	0.59	0.90	2.60
Reading Comprehension	50	33.45	10.35	0.67	0.92	2.91
TOTAL READING	90	57.03	17.28	0.63	0.95	3.90
Spelling	30	20.59	5.23	0.69	0.83	2.16
Language Mechanics	36	21.96	7.36	0.61	0.88	2.57
Language Expression	48	32.07	9.06	0.67	0.91	2.74
TOTAL LANGUAGE	84	54.03	15.23	0.64	0.94	3.76
Math Computation	44	24.88	10.23	0.57	0.93	2.77
Math Concepts & Applications	50	24.58	10.07	0.49	0.90	3.14
TOTAL MATHEMATICS	94	49.46	18.87	0.53	0.95	4.19
TOTAL BATTERY	268	160.52	48.55	0.60	0.98	6.85
Study Skills	30	20.40	6.51	0.68	0.89	2.14
Science	40	20.89	7.04	0.52	0.84	2.84
Social Studies	40	22.33	8.75	0.56	0.90	2.74

TEST	NO. OF ITEMS	MEAN	SD	Average P-Value	KR20	SEM
	GRADE 10 (LEVEL 20)					
Vocabulary	40	22.47	8.39	0.56	0.90	2.63
Reading Comprehension	50	31.83	10.32	0.64	0.92	2.97
TOTAL READING	90	54.30	17.40	0.60	0.95	3.97
Spelling	30	20.76	5.44	0.69	0.84	2.20
Language Mechanics	36	22.90	7.24	0.64	0.88	2.54
Language Expression	48	31.29	8.97	0.65	0.90	2.84
TOTAL LANGUAGE	84	54.18	15.02	0.65	0.94	3.81
Math Computation	44	26.06	10.12	0.59	0.93	2.72
Math Concepts & Applications	50	23.30	10.24	0.47	0.91	3.11
TOTAL MATHEMATICS	94	49.36	18.95	0.53	0.95	4.13
TOTAL BATTERY	268	157.85	48.49	0.59	0.98	6.88
Study Skills	30	19.71	6.83	0.66	0.90	2.18
Science	40	20.90	7.44	0.52	0.85	2.84
Social Studies	40	23.60	9.04	0.59	0.91	2.67

TEST	NO. OF ITEMS	MEAN	SD	Average P-Value	KR20	SEM
	GRADE 11 (LEVEL 21/22)					
Vocabulary	40	22.55	7.46	0.56	0.87	2.66
Reading Comprehension	50	32.83	9.21	0.66	0.90	2.98
TOTAL READING	90	55.37	15.42	0.62	0.93	3.99
Spelling	30	18.45	4.73	0.62	0.76	2.32
Language Mechanics	36	23.56	7.03	0.65	0.88	2.45
Language Expression	48	32.32	9.16	0.67	0.91	2.79
TOTAL LANGUAGE	84	55.89	15.00	0.67	0.94	3.72
Math Computation	44	23.52	10.65	0.53	0.93	2.75
Math Concepts & Applications	50	24.59	10.15	0.49	0.91	3.09
TOTAL MATHEMATICS	94	48.12	19.33	0.51	0.95	4.13
TOTAL BATTERY	268	159.38	46.83	0.59	0.98	6.85
Study Skills	30	19.96	6.40	0.67	0.88	2.20
Science	40	21.16	8.27	0.53	0.89	2.80
Social Studies	40	22.42	8.93	0.56	0.91	2.73

TEST	NO. OF ITEMS	MEAN	SD	Average P-Value	KR20	SEM
	GRADE 12 (LEVEL 21/22)					
Vocabulary	40	23.27	7.59	0.58	0.88	2.64
Reading Comprehension	50	33.90	9.44	0.68	0.91	2.91
TOTAL READING	90	57.16	15.78	0.64	0.94	3.93
Spelling	30	18.99	4.81	0.63	0.77	2.29
Language Mechanics	36	24.09	7.04	0.67	0.88	2.42
Language Expression	48	33.79	9.19	0.70	0.91	2.71
TOTAL LANGUAGE	84	57.89	15.06	0.69	0.94	3.63
Math Computation	44	24.84	10.73	0.56	0.94	2.72
Math Concepts & Applications	50	25.62	10.48	0.51	0.91	3.07
TOTAL MATHEMATICS	94	50.46	19.75	0.54	0.96	4.10
TOTAL BATTERY	268	165.51	47.67	0.62	0.98	6.74
Study Skills	30	20.97	6.40	0.70	0.89	2.13
Science	40	21.83	8.39	0.55	0.89	2.78
Social Studies	40	23.25	8.81	0.58	0.91	2.71

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Appendix B

Treatment

(Integrated Language Arts Program)

Treatment

One of the most important aspects of the integrated language arts program used in the study was that it provided students with an extended time period to meet with one teacher. The students met with the same teacher for reading and English (88 minutes). The sixth graders in this district go from a self-contained classroom in the fifth grade with one teacher being responsible for the majority of the curriculum to an eight period day at the middle school, where there are eight different classrooms and teachers. The design of this program eliminated one teacher and classroom change for the sixth graders. Because these students were with the integrated language arts teacher for 88 minutes instead of the 44 minutes they were with the other sixth grade teachers, most of them began to perceive the language arts class as a "home room" regardless of the time of day they were enrolled in the class. So from the student perspective, the program creates one less management worry. Secondly, according to the three teachers who participated, this program design benefitted the teachers. With the two periods of instruction (88 minutes), the teachers had halved their management time. For example, they took roll three times instead of six. They had half as many students to get to know (75 instead of 150), and half as many parents to try to keep in contact with. Although the teachers were responsible for teaching more information for curriculum purposes, they didn't really double the paperwork load because of the integration. Finally, the design was also favored by the administration--any time students are in class instead of the hallway is a positive aspect.

More important, however, was the content of this 88 minute integrated language arts class. Teachers worked hard to pull units together and integrate all aspects of language arts. The spelling words and vocabulary words were taken from the reading selections; the writing

was tied in to the literature; but most importantly, the grammar was not taught as a separate nine-week or semester subject using worksheets and sentences that didn't mean anything to the students; instead, the grammar was also tied into the literature study. For example, the sentences in which the students were asked to find prepositional phrases came directly from the story they had just read in class. Instead of working with a sentence that meant nothing to them, they worked with a sentence they recognized. The Prentice Hall Literature Program, which is an integrated design, was used to a large degree, and the teachers supplemented with their own resources to meet the needs of the curriculum guides. The Prentice Hall series provides guidelines of literature and integrated grammar and writing, so a teacher can pick and choose the elements necessary to coordinate with difficulty level and/or an established curriculum guide.

Prentice Hall Literature (Paramount Edition). (1994). Englewood Cliffs, NJ: Prentice Hall, Inc.

Appendix C

Computer Analysis Sheet

Obs. #	Group	Gender	SES	Race														
	Exp=1 Con=2	M=1 F=2	F/R=1 Reg=2	C=1 B=2 H=3 O=4	Voc	Rdg Comp	Spell-ing	Lang. Mech	Lang. Exp.	Rdg. Total	Lang. Total	Voc.	Rdg. Comp	Spell-ing	Lang. Mech	Lang. Exp.	Rdg. Total	Lang. Total